AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for determining at least one of a power level and rate at which data is transmitted over a link between source and destination nodes in a wireless ad-hoc communication network, comprising:

~~computing~~ predicting path loss in said link as a function of time based on information provided to said source node from said destination node pertaining to characteristics of at least two messages that ~~was~~ were transmitted by said source node for receipt by said destination node;

determining a noise factor representative of noise at said destination node; and

calculating at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said predicted path loss and said noise factor.

2. (Original) A method as claimed in claim 1, wherein:

said calculating includes calculating said power level and said rate.

3. (Currently Amended) A method as claimed in claim 1, wherein:

said calculating includes calculating said power level based on said predicted path loss and said noise factor, and determining said rate based on said calculated power level.

4. (Canceled)

5. (Original) A method as claimed in claim 1, wherein:

said noise factor determining determines said noise factor dynamically based on respective message information provided to said source node from said destination node in response to each of a plurality of said messages transmitted by said source node.

6. (Original) A method as claimed in claim 5, wherein said noise factor determining comprises:

increasing or decreasing an estimated noise factor based on each said respective message information for said plurality of messages to realize said noise factor.

7. (Currently Amended) A method as claimed in claim 1, wherein:

said calculating includes calculating at least one of said power level and said rate based on said predicted path loss, said noise factor, short term fading experienced by said message and sensitivity of a receiver of said destination node.

8. (Original) A method as claimed in claim 7, further comprising:

computing said short term fading based on a standard deviation of a strength at which said message is received by said receiver of said destination node.

9. (Original) A method as claimed in claim 7, further comprising:

computing said receiver sensitivity based on energy used by a transmitter of said source node to transmit a bit of information of said message at a particular data rate.

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10. (Original) A method as claimed in claim 1, wherein:

said noise factor determining determines said noise factor based on a level of correctness at which a receiver of said destination node receives said message.

11. (Original) A method as claimed in claim 1, further comprising:

calculating a quality of a link over which said message is sent from said source node to said destination node based on said calculated power level and said rate.

12. (Original) A method as claimed in claim 1, wherein:

said calculating calculates said data rate based on an amount of energy used by a transmitter of said source node to transmit a bit of information of said message.

13. (Currently Amended) A computer-readable medium of instructions, adapted to determining at least one of a power level and rate at which data is transmitted over a link

between source and destination nodes in a wireless ad-hoc communication network, said instructions comprising:

a first set of instructions, adapted to ~~compute~~ predict path loss in said link as a function of time based on information provided to said source node from said destination node pertaining to characteristics of at least two messages that ~~was~~ were transmitted by said source node for receipt by said destination node;

a second set of instructions, adapted to determine a noise factor representative of noise at said destination node; and

a third set of instructions, adapted to calculate at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said predicted path loss and said noise factor.

14. (Original) A computer-readable medium of instructions as claimed in claim 13, wherein:

said third set of instructions is adapted to calculate said power level and said rate.

15. (Currently Amended) A computer-readable medium of instructions as claimed in claim 13, wherein:

said third set of instructions is adapted to calculate said power level based on said predicted path loss and said noise factor, and to determine said rate based on said calculated power level.

16. (Canceled)

17. (Original) A computer-readable medium of instructions as claimed in claim 13, wherein:

said second set of instructions is adapted to determine said noise factor dynamically based on respective message information provided to said source node from said destination node in response to each of a plurality of said messages transmitted by said source node.

18. (Original) A computer-readable medium of instructions as claimed in claim 17, wherein:

said second set of instructions is adapted to increase or decrease an estimated noise factor based on each said respective message information for said plurality of messages to realize said noise factor.

19. (Currently Amended) A computer-readable medium of instructions as claimed in claim 13, wherein:

said third set of instructions is further adapted to calculate at least one of said power level and said rate based on said predicted path loss, said noise factor, short term fading experienced by said message and sensitivity of a receiver of said destination node.

20. (Original) A computer-readable medium of instructions as claimed in claim 19, further comprising:

a fourth set of instructions, adapted to compute said short term fading based on a standard deviation of a strength at which said message is received by said receiver of said destination node.

21. (Original) A computer-readable medium of instructions as claimed in claim 19, further comprising:

a fifth set of instructions, adapted to compute said receiver sensitivity based on energy used by a transmitter of said source node to transmit a bit of information of said message at a particular data rate.

22. (Original) A computer-readable medium of instructions as claimed in claim 13, wherein:

said second set of instructions is adapted to determine said noise factor based on a level of correctness at which a receiver of said destination node receives said message.

23. (Original) A computer-readable medium of instructions as claimed in claim 13, further comprising:

a fifth set of instructions, adapted to calculate a quality of a link over which said message is sent from said source node to said destination node based on said calculated power level and said rate.

24. (Original) A computer-readable medium of instructions as claimed in claim 13, wherein:

said third set of instructions calculates said data rate based on an amount of energy used by a transmitter of said source node to transmit a bit of information of said message.

25. (New) A method for determining at least one of a power level and rate at which data is transmitted over a link between source and destination nodes in a wireless ad-hoc communication network, comprising:

computing path loss in said link based on information provided to said source node from said destination node pertaining to characteristics of a message that was transmitted by said source node for receipt by said destination node;

determining a noise factor representative of noise at said destination node; and

calculating at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said path loss, said noise factor, short term fading experienced by said message and sensitivity of a receiver of said destination node.

26. (New) A method as claimed in claim 25, further comprising:

computing said short term fading based on a standard deviation of a strength at which said message is received by said receiver of said destination node.

27. (New) A method as claimed in claim 25, further comprising:

computing said receiver sensitivity based on energy used by a transmitter of said source node to transmit a bit of information of said message at a particular data rate.

28. (New) A method for determining at least one of a power level and rate at which data is transmitted over a link between source and destination nodes in a wireless ad-hoc communication network, comprising:

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computing path loss in said link based on information provided to said source node from said destination node pertaining to characteristics of a message that was transmitted by said source node for receipt by said destination node;

determining a noise factor representative of noise at said destination node; and

calculating at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said path loss and said noise factor, such that said data rate is calculated based on an amount of energy used by a transmitter of said source node to transmit a bit of information of said message.

29. (New) A computer-readable medium of instructions, adapted to determining at least one of a power level and rate at which data is transmitted over a link between source and destination nodes in a wireless ad-hoc communication network, said instructions comprising:

a first set of instructions, adapted to compute path loss in said link based on information provided to said source node from said destination node pertaining to characteristics of a message that was transmitted by said source node for receipt by said destination node;

a second set of instructions, adapted to determine a noise factor representative of noise at said destination node; and

a third set of instructions, adapted to calculate at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said path loss, said noise factor, short term fading experienced by said message and sensitivity of a receiver of said destination node.

30. (New) A computer-readable medium of instructions as claimed in claim 29, further comprising:

a fourth set of instructions, adapted to compute said short term fading based on a standard deviation of a strength at which said message is received by said receiver of said destination node.

31. (New) A computer-readable medium of instructions as claimed in claim 29, further comprising:

a fifth set of instructions, adapted to compute said receiver sensitivity based on energy used by a transmitter of said source node to transmit a bit of information of said message at a particular data rate.

32. (New) A computer-readable medium of instructions, adapted to determining at least one of a power level and rate at which data is transmitted over a link between source and destination nodes in a wireless ad-hoc communication network, said instructions comprising:

a first set of instructions, adapted to compute path loss in said link based on information provided to said source node from said destination node pertaining to characteristics of a message that was transmitted by said source node for receipt by said destination node;

a second set of instructions, adapted to determine a noise factor representative of noise at said destination node; and

a third set of instructions, adapted to calculate at least one of said power level and rate at which said data is transmitted over said link from said source node to said destination node based on said path loss and said noise factor, such that said data rate is calculated based on an amount of energy used by a transmitter of said source node to transmit a bit of information of said message.

33. (New) A method as claimed in claim 1, wherein:

said predicting step employs a forget factor which treats older said information less significantly than newer said information in predicting said path loss.

34. (New) A method as claimed in claim 33, wherein:

said predicting step applies a respective value of said forget factor to each respective said information representing the characteristics of a respective message, to weigh said information in predicting said path loss.

35. (New) A method as claimed in claim 34, wherein:

each said respective forget factor value has a value between 0 and 1.

36. (New) A computer-readable medium of instructions as claimed in claim 13, wherein:

said first set of instructions employs a forget factor which treats older said information less significantly than newer said information in predicting said path loss.

37. (New) A computer-readable medium of instructions as claimed in claim 36, wherein:

said first set of instructions applies a respective value of said forget factor to each respective said information representing the characteristics of a respective message, to weigh said information in predicting said path loss.

38. (New) A computer-readable medium of instructions as claimed in claim 37, wherein:

each said respective forget factor value has a value between 0 and 1.

39. (New) A method as claimed in claim 1, wherein:

the calculating calculates the transmit power level and data rate to minimize an amount of energy used for transmitting said data over said link.

40. (New) A computer-readable medium of instructions as claimed in claim 13, wherein:

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said third set of instructions calculates the transmit power level and data rate to minimize an amount of energy used for transmitting said data over said link.